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Indian Standard
SPECIFICATION FOR
BARE CLOTH TAKE-UP ROLLERS FOR
PLAIN COTTON LOOMS
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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR BARE CLOTH TAKE-UP ROLLERS FOR PLAIN COTTON LOOMS

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Indian Standard

SPECIFICATION FOR BARE CLOTH TAKE-UP ROLLERS FOR PLAIN COTTON LOOMS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 27 October 1966, after the draft finalized by the Cotton Weaving Machinery Components Sectional Committee had been approved by the Textile Division Council.

0.2 It is a common practice with the textile mills and loom manufacturers in India to purchase and sell take-up rollers without fillet (perforated strip made of steel or brass). The required type of fillet is fixed around the rollers by the mills according to their needs. Under these circumstances, the Sectional Committee decided to specify the requirements of bare cloth take-up roller. However, a separate Indian Standard for fillets (perforated strips) is under preparation.

0.3 The diameter of the cloth take-up roller prescribed in this standard is suitable for 7-wheel take-up motion which is commonly used in the looms. While specifying the diameter of the roller, the Committee has taken into consideration the following:

- a) Gearing constant of the 7-wheel take-up motion equal to 1 (approximately);
- b) The number of teeth in the change wheel equal to the number of picks per 25 mm (1 inch) in the cloth to be woven; and
- c) Contraction of warp after weaving equal to 1.5 percent.

0.4 This standard contains requirements which call for agreement between the buyer and the seller (*see* Table 1).

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (*revised*).

1. SCOPE

1.1 This standard prescribes the requirements of bare cloth take-up rollers for plain cotton looms.

2. GENERAL REQUIREMENTS

2.1 General Design and Workmanship — The take-up roller shall generally be as illustrated in Fig. 1. The steel pipe constituting the roller shall have suitable number of holes for taking the wooden pegs. The surface of the journals of the roller shall be smooth finished.

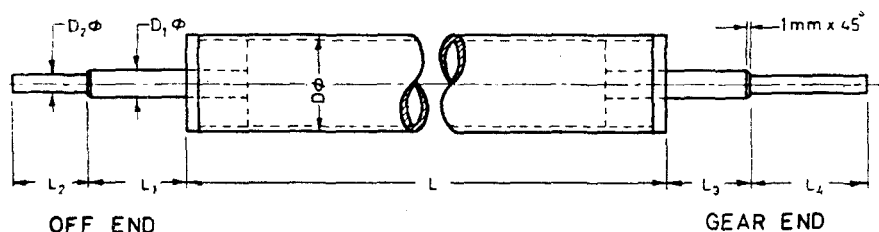


FIG. 1 BARE CLOTH TAKE-UP ROLLER

2.1.1 The journals shall be welded with the cast iron flanges (see Fig. 2) or shall be rigidly fixed in the flanges by any other suitable method. The flanges shall be secured to the steel pipe by means of three screws at 120° from each other.

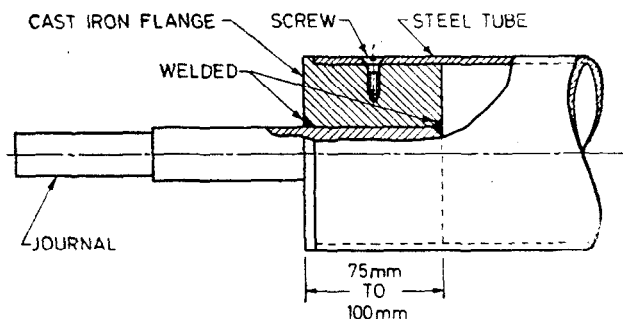


FIG. 2 DETAILS OF FIXING THE JOURNAL

2.2 Material

2.2.1 Roller — The roller shall be made of cast iron or steel pipe having a thickness of 5 to 8 mm.

2.2.2 Journals — The journals of the roller shall be made from mild steel bar.

3. SPECIFIC REQUIREMENTS

3.1 Dimensions — The dimensions of the bare take-up roller shall conform to the requirements of Table 1 when read together with Fig. 1.

TABLE 1 DIMENSIONS OF CLOTH TAKE-UP ROLLERS

All dimensions in millimetres.

L	L_1 L_2 L_3 L_4	D	D_1	D_2
Reed space +25 (see Note 1)	As agreed to between the buyer and the seller	122 or 114 (see Note 2)	32	As agreed to between the buyer and the seller
Tolerances ± 2	-do-	± 0.2	± 0.75	-do-

NOTE 1 — Reed space of the loom shall be as agreed to between the buyer and the seller. Reed spaces, as specified in IS : 3166-1965* are given below for information.

850, 950, 1 050, 1 150, 1 250, 1 375, 1 475, 1 575, 1 675, 1 775, 1 875, 1 975, 2 075, 2 200, 2 300, 2 400, 2 500, 2 600, 2 700, 2 800, 2 900, 3 100, 3 300, 3 600.

NOTE 2 — The roller of diameter 122 mm is suitable for use in conjunction with the beam wheel of 90 teeth and 114 mm suitable beam wheel of 86 teeth. The other gears in the 7-wheel take-up motion are as follows:

Ratchet wheel	—	24 teeth
Stud wheel	—	89 teeth
Pinion wheel	—	15 teeth
Swing pinion	—	24 teeth
Standard wheel	—	36 teeth
Change wheel	—	Number of teeth equal to the picks per 25 mm (1 inch) required in the cloth to be woven.

*Working widths and reed spaces of plain calico looms.

3.2 True Running — Take-up roller shall run true. However, out-of-true running, if present, shall not exceed 0.5 mm.

3.2.1 The true-running of the roller shall be adjudged by means of V-blocks and suitable dial gauge.

3.3 The journal at the gear-end side shall be provided with a key-way. The dimensions of the key-way shall be consistent with the length and the diameter of the journal (see IS : 2048-1962*).

*Specification for parallel keys and key-ways.

4. DESIGNATION

4.1 Take-up roller shall be designated by its length.

Example:

Take-up roller, 850 mm

5. MARKING

5.1 Each take-up roller shall be marked at a suitable place with the following:

- a) Designation (*see* 4.1); and
- b) Manufacturer's name, initials or trade-mark.

5.1.1 Rollers may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark, may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6. PACKING

6.1 Rollers shall be coated lightly with suitably anti-rust agent, wrapped in waterproof paper and kept on suitable supports in a wooden case. The wooden cases shall be strong enough to withstand the hazards of transit.

6.2 Each case shall be marked with the following information:

- a) Manufacturer's name, initials or trade-mark;
- b) Designation of rollers; and
- c) Number of rollers.

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